We Claim:

1. Transponder with an antenna and an electronic control circuit and comprising a metallic enclosure, wherein the antenna and the electronic control circuit are contained in a hermetical metallic enclosure.

2. Reader with an antenna and comprising an enclosure, wherein the antenna is protected from the environment by a metallic front plate that is integral with the enclosure containing the electronic control circuit.

3. Reader according to claim 2, wherein said enclosure comprises a hermetical closure.

4. Transponder or reader according to claim 1 or 2, wherein the enclosure is made of stainless steel with a wall thickness between 0.2 and 0.5 mm and the frequency of the carrier wave is comprised between 20 and 50 kHz.

5. Transponder or reader according to claim 1 or 2, wherein the antenna coils are rectangular in cross-section with the large side of the coil closely coupled to the metallic wall of the enclosure.

6. Transponder or reader according to claim 5, wherein an air gap is provided at the rear of said coils, opposite the enclosure or opposite the ferrite element.

7. Transponder and reader according to claim 1 or 2, wherein the resonance frequency of the antenna is 5 to 20 % higher than that of the carrier.

8. Transponder and reader according to claim 1 or 2, wherein the Q factor of the resonant antenna is degraded in a controlled manner by a resistance.

9. Reader according to claim 2, wherein the reception circuit is preceded by a differentiating filter.

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